

Angel Island State Park Ferry Concession Feasibility Study

California Department of Parks and Recreation

by

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September 2012

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I. EXECUTIVE SUMMARY AND SCOPE OF WORK

Public transportation access to and from Angel Island State Park from various Bay Area locations (Alameda, San Francisco, and Tiburon) are currently provided by private ferry service operators under two separate DPR concession contracts which will soon expire.

DPR intends to execute new contracts for ferry service to Angel Island from appropriate Bay Area locations and particularly from Tiburon. This study evaluated (1) the relevance and applicability of a prior economic study which DPR engaged to examine the logistical and financial aspects of the Tiburon ferry route, (2) the feasibility of the Tiburon and other viable ferry routes for future DPR ferry concession contracts, and recommended (3) concession contract terms and procurement approaches that would improve public benefits while attracting competitive proposals for one or more new contracts for the Tiburon and San Francisco ferry origins, and possibly combining the routes under one contract. We also identified potential service providers/operators from which to solicit bids for the new contract(s).

Summary of Key Findings

- Angel Island State Park visitation declined significantly in 2009 to 133,168 from 186,143 and 180,790 in 2007 and 2008 respectively. It recovered somewhat in 2010 to 140,788 and 163,895 in 2011, still below its earlier levels.¹
- Angel Island Tiburon Ferry (AITF) ferry service from Tiburon averaged 62,544 passengers per year over the last 5 years. However, its ridership had steadily declined from its 2007 level of 70,269 to only 56,462 in 2010, recovering to 65,347 in 2011, representing a one year increase of nearly 16%, but still considerably under its 2007 level. Approximately 78% of AITF's passengers are adults and 22% are children.
- Blue & Gold's San Francisco originating passengers averaged 37,662 over the past 5 years. Its ridership declined from nearly 38,917 in 2007 to 33,738 in 2008, recovering to 37,266, 38,613 and 39,776 in 2009 through 2011, slightly exceeding its 2007 level. Approximately 83% of Blue & Gold's passengers have been adults and 17% children.
- Ferry operators who provide multiple boating services, including multi-route ferry services, would be able provide the most cost-effective ferry service to Angel Island by incorporating the route as one stop on a multi-stop trip. (This type of service is referred to as Model #1). In contrast, a ferry operator that serves Angel Island only with exclusive direct non-stop transits is much less cost-effective. (This type of service is referred to as Model #2).
- However, for the projected visitor flows, a ferry operator providing **only direct non-stop service** from **San Francisco to Angel Island** (i.e., Model #2), was found unable to break even let alone generate an after-tax fair market internal rate of return (IFF) of 8.0%. It was estimated that to achieve the target IRR even with a 20-year contract, a Model #2 operator would need to generate annual revenues of \$651,700, nearly 50% more than projected

¹ Note that Park visitation figures reflect visitors arriving both from the Tiburon and San Francisco ferries and visitors arriving by alternative means of transport including private watercraft, WETA ferry, Alcatraz-Angel Island tour boat, etc. Therefore, annual Park visitation is greater than the combined annual ridership of the ferry concessions.

revenues. To obtain a fair market return under a 10-year contract, the operator would need 54% higher revenues. Both are projected to be unattainable for the San Francisco-Angel Island route.

- A ferry operator providing non-stop direct service between **Tiburon and Angel Island** (i.e., a Model #2 operator) could afford to pay DPR a franchise fee of **1.0% to 3.3%** of revenues on a 10-year contract, **1.2% to 3.0%** of revenues on a 15-year contract, and **2.5% to 4.0%** of revenues on a 20-year contract, the range being affected by the degree to which its boats would need to be purchased (either new or used) or could be derived from boats already owned and mostly amortized.
- A ferry operator providing service between **San Francisco and Angel Island** as one stop on a multi-stop trip (i.e., a Model #1 operator) could afford to pay DPR a franchise fee of between **14.0% and 63.0%** of revenues under a contract of any duration, paying in the higher fee range only if it was able to serve Angel Island as a link in a multi-stop route, and cover all of its fixed costs and nearly all of its variable operating costs, with revenues from the other links instead of the Angel Island service.
- When comparing proposed franchise, DPR should also compare the corresponding proposed frequencies of non-stop direct Tiburon-Angel Island service. The higher the proposed fee, the more likely the proposed frequency of service will be lower.
- To enable the greatest competition for Angel Island service, it is recommended that DPR consider bids for (1) Tiburon-Angel Island service, (2) San Francisco-Angel Island service, as well as bids for (3) combined service from both San Francisco and Tiburon. DPR might then compare the bids in terms of both franchise fee offered and visitor service quality, particularly in terms of non-stop direct service frequency and ferry transit times.
- For the **Tiburon-Angel Island** contract, it is recommended that DPR require a second tier franchise fee, stipulating a minimum franchise fee for the second tier of **15.0%** on the incremental gross revenues over and above \$800,000.
- For the **San Francisco-Angel Island** contract, it is recommended that DPR require a second tier franchise fee, stipulating that the minimum for the second tier be higher than the proposed first tier franchise fee applied on revenues over and above \$550,000.
- To insure feasibility, it is recommended that DPR specify the minimum required service levels from the San Francisco and Tiburon origins to be no higher than the schedules currently being offered by the current concessionaires, respectively. For higher desired service levels, it is recommended that such level be specified as authorized, but not required.
- The franchise fees and levels of service were determined to be relatively independent of the concession contract term. Therefore, the contract term for both contracts should be the same at 10 years, yielding DPR the opportunity to benefit from more frequent competitions and assess the future benefit of combining not only the two ferry contracts but those contracts with the land-based concession contract.
- The AITF dock and Blue & Gold's (i.e., Zelinsky) dock, currently being used to access Angel Island from Tiburon, are the best choices for future Angel Island ferry service from Marin County. They are close to each other and both near the downtown with its available

public parking. All other docks in Marin County have significant shortcomings affecting their capacity to accommodate the desired Angel Island ferry service frequency or passenger volumes without incurring significant additional investment and/or having to clear significant institutional hurdles.

- All of the prospective bidders for San Francisco-Angel Island ferry service have now or could obtain access to San Francisco dock space.

II. METHODOLOGY AND ASSUMPTIONS

Following a kick-off meeting with DPR, we inspected the facilities and equipment used by the current concessionaires at both their ferry terminals, the Angel Island destination, as well as at potential and prospective new embarkation locations. We reviewed the terms and conditions of the current concession contracts and interviewed key concession management and Park staff. We evaluated and considered how the facilities and operations might be improved to provide expanded and more cost-effective services, including especially expanded ferry service and alternative and more cost-effective boat sizes that might differ from the boats currently used by the concessionaires.

Our team included two financial analysts, with expertise and experience in a wide range of park concession operations, including California State Park concessions, and two experts in ferry boat and related boat facilities, operations, and maintenance who estimated the costs to acquire and operate and maintain prospective cost-effective ferry boats, considering industry standards and especially operations on San Francisco Bay. The boat experts also estimated the salvage/recovery values of the boats and other personal property at the end of the potential contract periods of 10, 15 and 20 years.

For both routes, we analyzed historical trends and projected future volumes and rates to be charged for adults and children. We estimated revenues, capital and operating costs and recovery values to project rates of return on investment, and potential concessionaire's ability to pay DPR a franchise fee while earning a reasonable return commensurate with their financial and operating risks. We tested the basic financial models for their sensitivity to variations in the key parameters.

We inspected the current AITF and Blue & Gold facilities, toured the immediate and surrounding areas, and discussed the principal financial and operating issues with the two concessionaires' key staff, especially focusing on DPR's desires for operating changes in the next contract(s).

We noted the dock spaces for the Tiburon and San Francisco ferries, the passenger waiting areas, ticketing methods, available public parking, and restrooms. In Tiburon, we noted the dock space made available for the DPR boat – 90 feet on the AITF dock.

Although we reviewed and considered the particular nature of the current concessionaires' facilities and operations, our analysis did not seek to replicate, or necessarily directly reflect, those concessionaires' facilities, operations or even financial structure. Indeed, as noted elsewhere, the two were so different that no single financial analysis would represent either one.

And, neither one was judged to necessarily represent all types of prospective and potential concessionaires.

Therefore, we sought to develop pro forma financial projections that we used to test a variety of boat sizes and operating structures of potential bidders for the next concession contract(s), including various operating schedules, origin-destination linkages, staffing, and capital and operating expenses that might be representative of competing bidders, but not necessarily of the existing concession enterprises. We then varied those parameters to check the sensitivities to a range of projected demand and types of operations.

Therefore, neither the financial data, operating parameters, nor the conclusions presented here, should be considered to represent either of the current concessionaires.

III. REGIONAL MARKET CONDITIONS

This section summarizes the historical visitation and ferry ridership to Angel Island State Park, the availability of docking space to serve the Park, and the competitive environment for ferry enterprises operating in San Francisco Bay.

A. Historical Visitation to Angel Island State Park

According to knowledgeable key informants, including DPR and ferry concession staff, the market for Angel Island visitation primarily consists of Bay Area residents, with smaller portions coming from Northern California residents outside the Bay Area who can make the visit in a one-day trip from their homes. Relatively few visitors camp overnight or come from greater distances. In addition, visitation to Angel Island is highly influenced by weather conditions, with warm/sunny weather driving higher visitation to the Island. In general, the visitor market for Angel Island is very different from the Alcatraz market, which is highly popular with out of state and foreign visitors, and is not particularly well known to visitors outside of California. Angel Island State Park is a popular field trip destination for K-12 schools in the surrounding communities.

The primary determinant of embarkation location seems to be driving time/distance from home. Therefore, the market is reported to mainly be distributed according to the Bay Area populations' driving time to the available embarkation points, such as Marin County and Northern California residents traveling to Tiburon, Peninsula and San Francisco residents traveling to the Ferry Building or Pier 41, and East Bay and residents from areas to the East traveling to Vallejo/Richmond and Oakland/Alameda.

The shorter ferry transit time from Tiburon, compared with ferry transit times from other Bay Area locations, does not seem to be sufficient reason for visitors to drive to more distant embarkation points to save ferry transit time. However, some San Francisco residents are reported to prefer to embark from the Ferry Building in preference to Pier 41 to avoid the Pier 39 crowds, even if Pier 41 is closer.

Exhibit 1 presents annual/monthly visitation to Angel Island SP over the period 2001 to 2011.

Exhibit 1. Annual and Monthly Visitation to Angel Island SP, 2007-2011²

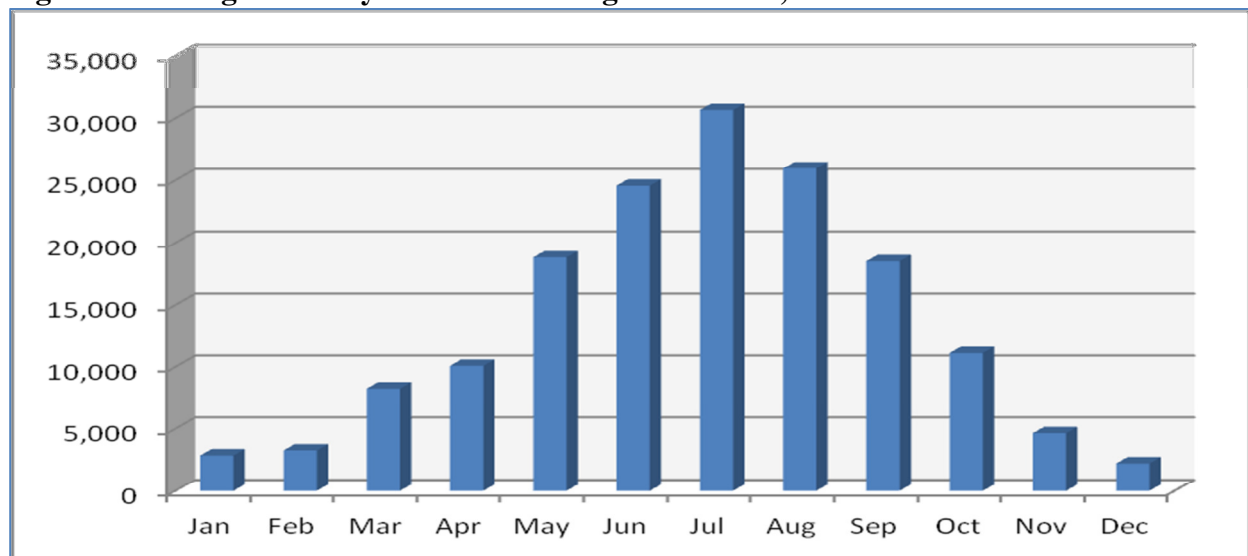
	2007	2008	2009	2010	2011	Average	Ave. Share
January	3,564	2,522	2,526	2,192	3,544	2,870	2%
February	4,083	4,043	3,132	1,576	3,509	3,269	2%
March	10,565	12,974	6,435	7,135	4,207	8,263	5%
April	12,926	11,843	3,615	8,946	13,084	10,083	6%
May	21,150	21,351	15,929	16,343	19,205	18,796	12%
June	31,562	26,117	21,584	20,374	23,199	24,567	15%
July	39,023	31,095	25,507	24,465	33,182	30,654	19%
August	20,774	34,386	25,033	24,413	25,332	25,988	16%
September	20,774	20,906	13,861	18,976	17,916	18,487	12%
October	13,653	8,543	8,466	10,661	14,219	11,108	7%
November	4,914	4,914	4,990	4,472	3,930	3,858	3%
December	3,155	2,096	2,090	1,235	2,568	1,715	1%
Totals	186,143	180,790	133,168	140,788	163,895	160,957	100%

Source: DPR

Over the last five years, visitation to Angel Island SP has declined at an average annual rate of roughly 3% per year. The exhibit reveals that visitation in 2009 declined significantly by roughly 26%, likely due to impacts associated with the onset of the national recession including lower disposable incomes and correspondingly tighter family vacation/travel budgets. In addition, 2009 visitation might have been impacted by the large fire on the Island in October 2008, which resulted in extensive damage to the Island. However, since 2009 visitation has steadily grown in 2010 and 2011 by approximately 5% and 14% in each year, respectively. The increases in visitation in 2010 and 2011 may signal a recovery to pre-recession levels of visitation.

Figure 1 displays average monthly visitation to Angel Island SP over the period 2007 to 2011.

Figure 1. Average Monthly Visitation to Angel Island SP, 2007-2011.



² Ibid.

The exhibit and figure show that July has historically been the month with the highest visitation, contributing nearly 20% of annual visitation. The months with the lowest visitation have been December, January and February, contributing only about 1% of annual visitation, respectively. The lower monthly visitation in the months November through April is largely a reflection of inclement weather during these months, which discourages visitation to the Island.

For the purposes of comparison, five of the six other State Parks within the Marin District (in which Angel Island SP is located) including China Camp SP, Marconi Conference Center SHP, Samuel P. Taylor SP, Olompoli SHP, and Tomales Bay SP experienced even larger declines in average annual visitation over the period 2007 to 2011, ranging from negative 3.3% (Samuel P. Taylor SP) to negative 23.6% (Tomales Bay SP). The only park unit in the Marin District to experience visitation growth over this period was Mount Tamalpais SP, where visitation grew at an average annual rate of 3.1% per year. Therefore, the declines in average annual visitation are not unique to Angel Island SP and have been occurring at similar if not greater rates at other popular regional State Parks. The fact that visitation to Angel Island SP has declined relatively less than at most other Parks in the Marin District seems to indicate the Park's relative popularity and resilience to the pressures driving declines in visitation to other regional State Parks.

Although one of the current concessionaires contended that Angel Island visitation is relatively insensitive to marketing, it might be that the much higher historical visitation to the island could be restored through more aggressive marketing than is supported by the recent expenditures. Certainly small marketing efforts have little effect. Furthermore, since three separate concessionaire's have difficulty justifying marketing expenditures that they think might benefit one or both of the others more than their enterprise, marketing expenditures are unlikely to increase.

Therefore, one of the problems with the current disaggregation of ferry and land based services is its inherent disincentive to any one of the ferry or land based concession operators to market. A concessionaire operating all three enterprises would have a much greater incentive to market.

B. Overview of Existing Ferry Service to Angel Island SP

Ferry service to Angel Island SP is currently provided by Blue & Gold (B&G) from Pier 41 and the Ferry Building in San Francisco and by Angel Island Tiburon Ferry (AITF) from Tiburon. The majority of service, in terms of annual passenger volumes, is provided by AITF with direct non-stop service from Tiburon to Angel Island. Blue & Gold operates as a subcontractor to the Water Emergency Transportation Authority (WETA) to provide service to Angel Island SP from Alameda/Oakland under an operating agreement between DPR and WETA. Blue & Gold also operates under an agreement with the City of Vallejo to provide commuter ferry service between Vallejo and San Francisco. Passengers on those routes can and do connect to Angel Island on Blue & Gold's service from San Francisco. For that reason, and since the concession contracts considered in this analysis are for ferry service to Angel Island from Tiburon and San Francisco, ferry operations from these locations are the primary focus of this analysis. The following subsections present historical ridership, current schedules and rates for each ferry service.

1. Angel Island Tiburon Ferry – Tiburon to Angel Island

The Angel Island Tiburon Ferry (AITF) has been owned and operated by the McDonogh family for two generations. AITF provides the fastest way to access Angel Island, with the ferry ride from Tiburon to Angel Island taking roughly 10 minutes each way.

Currently, AITF provides service to Angel Island on a year-round basis on weekend days and there is no scheduled weekday service during the winter months November through February. Trips during these winter months are only available by advance reservation for groups of 25 or more. AITF provides ferry service on weekdays starting in March continuing through October. From April through mid-October, AITF provides between 3 and 4 round-trips to Angel Island during the weekdays and between 7 and 8 round-trips during weekend days. Typically, the first outbound trip to Angel Island is at 10:00 AM, and the last returning trip is between 3:30 PM (on weekdays) and 5:20 PM (on weekend days). According to AITF the most popular outbound runs to the Island are typically morning trips at 10:00 AM and 11:00 AM with the last departing trip often being the most popular return trip. Round-trip fares are currently priced at \$11.50 for children and \$13.50 for adults, and include the DPR entrance fees of \$3.00 for adults and \$2.00 for children.

Exhibit 2 summarizes historical monthly and annual round-trip ridership (passengers) and total annual revenues for AITF.

Exhibit 2. AITF Monthly and Annual Round-Trip Ridership, 2007-2011³

	2007	2008	2009	2010	2011	Average
January	1,675	1,301	1,955	1,225	2,071	1,645
February	1,766	1,549	865	1,007	1,648	1,367
March	4,102	3,912	2,988	3,288	1,443	3,147
April	5,844	5,861	7,152	4,621	6,082	5,912
May	11,312	8,422	8,616	8,082	7,894	8,865
June	10,973	8,049	9,201	8,136	8,685	9,009
July	10,425	9,415	8,033	8,961	11,339	9,635
August	8,886	9,361	8,558	7,144	8,197	8,429
September	6,367	6,779	5,282	7,048	7,213	6,538
October	5,096	3,332	4,412	4,518	7,173	4,906
November	2,127	1,705	2,100	1,916	2,375	2,045
December	1,696	949	844	516	1,227	1,046
Total Passengers	70,269	60,635	60,006	56,462	65,347	62,544
Total Revenues	\$641,100	\$621,992	\$646,498	\$611,510	\$694,006	\$643,021

Sources: DPR Forms 54, 86 and AITF

The exhibit reveals that ridership steadily declined over the period 2007 to 2010 and then rebounded by nearly 16% in 2011. Over the last 5-years ridership has declined at an average annual rate of 1.8%, with annual ridership averaging close to 63,000 passengers per year. The impacts from the national recession beginning in 2008 partially explain the significant drop in

³ Revenues exclude Park Entrance fees.

ridership beginning in that year and continuing through to 2010 as reductions in disposable incomes have likely negatively impacted travel budgets and recreation expenditures. The rebound in passenger ridership may indicate that a recovery is underway but it is too early say. The exhibit indicates that July is typically the month with the highest average ridership followed by June and May, respectively. AITF reports that on average approximately 78% of passengers are adults and 22% are children. The concessionaire has also reported that passengers appear to be highly price sensitive to ferry rate increases. The concessionaire reports that since there are numerous competing outdoor recreation options in the region, attracting visitors to Angel Island can prove challenging, particularly with a limited marketing budget.

Considering the recent declines in ridership and the increase in ridership in 2011, this study makes the very conservative assumption that over the term of the next concession contract ridership will remain at current average levels of approximately 63,000 passengers per year.

2. Blue & Gold – San Francisco to Angel Island

Blue & Gold provides ferry service to multiple locations throughout the Bay, of which Angel Island is just one. For example, Blue & Gold provides ferry service to Sausalito, Tiburon, Vallejo, Oakland/Alameda, and Harbor Bay, as well as sightseeing tours of the Bay. Blue & Gold operates primarily out of Pier 41 and the Ferry Building in San Francisco.

Currently, Blue & Gold provides service to Angel Island on a year-round basis on both weekend and weekdays. From November to April, Blue & Gold typically offers one round-trip per day, with one morning trip at 10:30 AM and one return trip at around 2:25 PM. On weekends during this period, Blue & Gold offers one morning trip at 10:00 AM and a later return trip at 4:10 PM. From May to October, Blue & Gold provides 3 round-trips to Angel Island during the weekdays and 4 round-trips during weekend days. Typically, the first outbound trip to Angel Island is between 9:20 AM (Ferry Building) and 9:45 AM (Pier 41), and the last returning trip is between 3:00 PM (on weekdays) and 4:40 PM (on weekend days). According to Blue & Gold, the most popular outbound runs to the Island are typically morning trips at 9:20/45 AM with the last departing trip often being the most popular return trip. Round-trip fares are currently priced at \$17.00 for adults and \$9.50 for children and include the DPR entrance fees of \$3.00 for adults and \$2.00 for children.

Exhibit 3 summarizes historical monthly and annual round-trip ridership (passengers) and total annual revenues for Blue & Gold's San Francisco to Angel Island Service.

Exhibit 3. Blue & Gold Monthly and Annual Round-Trip Ridership, 2007-2011⁴

	2007	2008	2009	2010	2011	Average
January	658	408	851	523	1,005	689
February	834	988	1,013	993	1,169	999
March	1,628	2,776	1,313	1,783	1,090	1,718
April	3,282	3,069	2,919	3,519	7,903	4,138
May	4,736	3,908	5,214	6,370	4,141	4,874
June	5,508	6,418	8,628	4,433	4,999	5,997
July	7,717	5,647	6,093	9,121	7,428	7,201
August	6,941	5,570	4,378	4,113	4,355	5,071
September	4,837	3,602	2,886	4,141	3,403	3,774
October	1,857	531	2,620	2,880	3,824	2,342
November	639	524	814	507	40	504
December	283	301	541	232	421	355
Total Passengers	38,917	33,738	37,266	38,613	39,776	37,662
Total Revenues	\$393,560	\$347,098	\$388,753	\$421,294	\$452,319	\$400,605

Source: Blue & Gold Sales Reports

The exhibit reveals that ridership declined between 2007 and 2008, presumably explained by the national recession that began in 2008. Ridership then rebounded steadily since then, showing an average annual increase of 0.5% for the period. Since 2008, however, ridership increased at an average annual rate of 5.6% per year, and the average ridership over last 5-years is nearly 38,000 passengers per year.

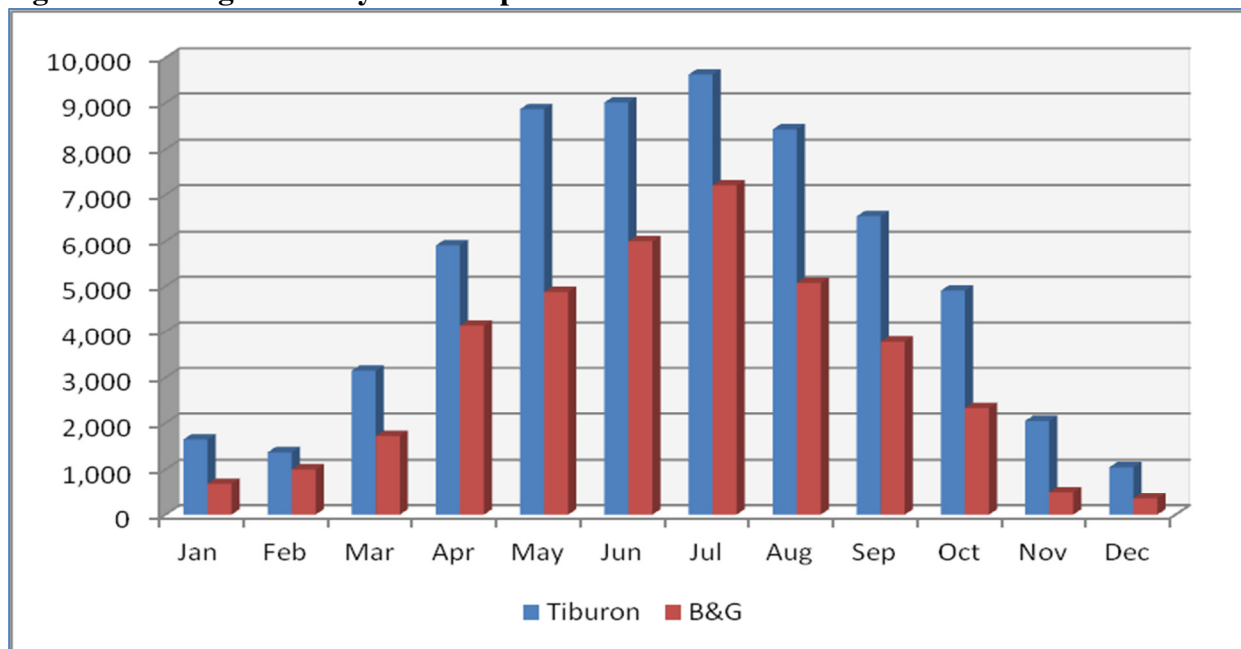
The exhibit also shows that July is typically the month with the highest average ridership followed closely by June and August, respectively. Based on a review of Blue & Gold's ridership data, approximately 83% of passengers are adults and 17% are children. The concessionaire has also reported that, considering the higher prices for comparable recreational water excursions on the Bay (such as trips to Alcatraz), there appears to be a potential to raise rates above current levels.

Despite the recent growth in ridership, to be conservative this study assumes that over the term of next concession contract ridership would remain near the current average levels of approximately 38,000 passengers per year.

Figure 2 graphically compares average monthly ridership for AITF's and Blue & Gold's service to Angel Island. Note that, as might be expected, the seasonal trends in ridership are very similar, although AITF appears to have relatively higher shares of ridership in January and May compared to Blue & Gold.

⁴ Ibid.

Figure 2. Average Monthly Ridership 2007-2011: AITF vs. Blue & Gold



3. Water Emergency Transportation Authority – Alameda/Oakland to Angel Island

Blue & Gold currently provides ferry service from Oakland/Alameda to Angel Island under contract with the Water Emergency Transportation Authority (WETA). The service is offered weekends from May to October each year. Visitors from the Oakland/Alameda board a Blue & Gold operated WETA vessel then transfer at Pier 41 to the Blue & Gold ferry vessel bound for Angel Island. The departure time from Oakland is 9:00 AM and 9:10 AM for Alameda and the return time from Angel Island is 3:10 PM. Round-trip fares are currently \$14.50 for adults and \$8.50 for children, including Angel Island SP entrance fees of \$3.00 for adults and \$2.00 for children. Alameda/Oakland ridership to Angel Island has averaged approximately 4,000 passengers per year over the period 2007 to 2011. Ridership from Alameda/Oakland grew at an average annual rate of roughly 1.0% per year over this period.

WETA currently has an operating agreement with DPR which permits service to Angel Island. Under the operating agreement WETA is not required to pay franchise fees to DPR. Therefore, since WETA's contract is outside the existing Blue & Gold contract for ferry service to Angel Island and is not subject to franchise fees, ridership and revenues for this service were not considered when estimating future ridership, revenues, and potential franchise fees for the next concession contract providing service between San Francisco and Angel Island.

The impact of expanded WETA service to Angel Island on ferry concessionaires operating from Tiburon and San Francisco would depend to a large extent on where visitors to Angel Island originate. However, Blue & Gold and AITF, as well as DPR staff, indicated that they do not track passenger/visitor origins and therefore, no specific information on passenger origins was available. Both concessionaires simply stated that based on their experience, most visitors were coming from all over the Bay Area. In general, the more WETA service is provided from existing routes and new routes, the more it would tend to negatively impact the San Francisco

and Tiburon ferry concessionaires, as visitors would tend to divert to closer locations to access WETA service. However, if WETA expanded service in locations serving large numbers of potential Angel Island visitors, this might also increase total visitation by making access to Angel Island convenient for visitors who otherwise would not be willing to travel to Tiburon or San Francisco. Although this type of visitation increase might not negatively impact ferry concessionaires, DPR would presumably not receive franchise fee payments on revenues generated by WETA ridership to Angel Island.

If total visitation were to increase, this would certainly positively impact the land-based Angel Island concession operations and therefore increase franchise fees to DPR. However, if visitors who would otherwise use the San Francisco and Tiburon based ferry services opted to use more convenient WETA ferry service instead, those other ferry concessionaires would lose revenues, and therefore pay lower franchise fees. The increase in fees from the land based concessionaire might not offset the lower franchise fees from the ferry operators. Therefore, it is recommended that DPR carefully consider the trade-offs between the financial benefits and costs of expanded public access to Angel Island, considering that some of the expanded service might not be provided by franchise fee-paying ferry concessionaires.

C. Potential Competitors for the New Ferry Concession Contract(s)

In addition to Angel Island Tiburon Ferry, Inc. and Blue & Gold, which currently hold the Tiburon-Angel Island and San Francisco-Angel Island ferry service concessions, three other operators indicated an interest in serving the Marin County and San Francisco to Angel Island visitors – Hornblower, Red & White and the Golden Gate Ferry. **However, as a public agency and benefitting from financial subsidies, the Golden Gate Ferry would not be eligible to bid. Moreover, without certainty of being able to serve passengers from a dock in Marin County, Hornblower and Red & White would be unlikely bidders for a Marin County-Angel Island service.**

1. Hornblower

Hornblower operates a fleet of nine vessels, including the San Francisco Belle (2,200 passengers), California Hornblower (750 passengers), San Francisco Spirit (550 passengers), Ferryboat Santa Rosa (150 passengers), Pacific Hornblower (149 passengers), Sunset Hornblower (140 passengers), Commodore Hornblower (110 passengers), Empress Hornblower (250 passengers), and the Hornblower Hybrid Alcatraz (120 passengers).

2. Red & White Fleet

The Red & White Fleet operates three cruises, all of which depart from and return to Pier 43 ½ in San Francisco. They're called the "San Francisco Bay," "Bridge-to-Bridge," and "Sunset" cruises. Red & White operates four boats with capacities of up to 150, 300, 300 and 400 passengers, respectively. Red & White does not currently ferry passengers to any destinations in San Francisco Bay.

3. Golden Gate Ferry

Although interested in contributing support for the ferry services, the Golden Gate Ferry is a public agency whose operating restrictions would preclude it from competing for a concession contract against private entities. Moreover, since it obtains operating subsidies both from federal FTA money and from Golden Gate Bridge tolls, it would be viewed as having an unfair competitive advantage.

Although Golden Gate Ferry could not compete for either of the routes, its Larkspur Landing would offer an excellent potential additional origin for Angel Island ferry service, but only on weekends. Golden Gate's weekday commuter boat operations saturate both its parking lot and dock capacity. However, on weekends, its parking lot is only about one-third full and six of its seven vessels are parked there, the seventh being in operation. Therefore, the Golden Gate Ferry might join/partner with the Tiburon ferry service provider to supplement that operator's Angel Island ferry service on weekends when the Tiburon service reached its own operating capacity, either due to its boats or the Tiburon parking lots reaching their capacity.

D. Ferry Dock Availability

1. Marin County Docks

The AITF dock and Blue & Gold's (i.e. Zelinsky) dock, currently being used to access Angel Island from Tiburon, are the best choices for future Angel Island ferry service from Marin County. They are close to each other and both are near the downtown with its available public parking. All other docks in Marin County have significant shortcomings affecting their capacity to accommodate the desired Angel Island ferry service schedule timing, frequency or expected number of passengers without incurring significant additional costs and/or having to clear significant institutional and infrastructure investment hurdles.

Sausalito City Pier. This facility is under a long-term master lease agreement with Golden Gate Ferry. Golden Gate Ferry currently subleases space to Blue & Gold for a San Francisco to Sausalito ferry route. However, a representative of Golden Gate Ferry indicated that the current dock sublease with Blue & Gold absorbs a considerable portion of the existing dock's capacity. Any additional service would create congestion and potential scheduling conflicts at the Pier. Therefore, Golden Gate Ferry indicated that they would not be interested in subleasing dock space for an additional ferry serving Angel Island or providing dock space to accommodate the dock needs of the DPR boat.⁵

According to a representative of the City of Sausalito, available parking is already congested and additional service would aggravate the problem. Due to especially high parking demand during the peak summer months, the additional parking generated by visitors to Angel Island would create significant additional congestion and delays during these times.⁶

⁵ Telephone conversation with Jim Swindler, Deputy General Manager, Golden Gate Ferry, April 26th, 2012.

⁶ Telephone conversation with Charlie Francis, Director of Finance, City of Sausalito, April 26th, 2012.

Bay Model Dock in Sausalito. This facility is located approximately one mile north of the City Pier and has docking facilities which could accommodate ferry vessels. This facility is owned and operated by the U.S. Corp of Engineers. According to the Park Manager of the Bay Model, the Corp of Engineers would not presently be willing to provide or lease dock space to the Angel Island ferry. The Bay Model has only limited dock space available for the Corps' own vessels and visiting vessels, and is in the process of completing a lease agreement with Golden Gate Ferry to provide overnight mooring (but not ferry service) dock space for several of Golden Gate's vessels, which will further reduce available dock space. Given these limitations, there would also be no space available to accommodate the dock needs of the DPR boat.

The Bay Model Park Manager indicated that parking would also be a substantial constraint as the amount of parking is currently limited and reserved for Model visitors and special event guests. In addition, to be useful for a ferry service, the dock facilities would need to be upgraded with handrails and other ADA compliant improvements to provide visitors with safe and secure access.⁷

Larkspur Landing Ferry Terminal. This facility belongs to the Golden Gate Ferry and is very suitable for docking ferries. However, Golden Gate Ferry operates the facility at capacity during weekdays to serve commuter traffic. There is neither dock nor parking space available during the week to accommodate possible Angel Island service. However, on weekends its parking lot is only about one-third full and six of its seven vessels are parked there, with the seventh being in operation.

The Golden Gate Ferry would be willing to consider providing a weekend only service to Angel Island. However, as noted above, the Golden Gate Ferry is a public agency whose operating restrictions would preclude it from competing for a concession contract against private entities.

Although the Golden Gate Ferry could not compete for the primary Angel Island ferry service, or even provide separate competitive weekend service, it is interesting to contemplate whether it might join with the Tiburon-Angel Island concessionaire to supplement that operator's service on weekends, especially in the future when the Tiburon service might reach its own operating capacity, either due to the capacity of its boats, Tiburon parking lots, or both.

However, the Golden Gate Ferry's restrictions and competitive advantage would seem to preclude it from joining with a private concessionaire, certainly during the bidding process, since those restrictions and advantages would transfer to its prospective partner. At best, it would seem that its weekend boat and/or dock might be offered to any and all competitors for the concession contract.

Enabling the Golden Gate Ferry to provide its boat(s) and/or Larkspur dock to an Angel Island service would clearly be a very cost-effective use of otherwise idle resources. Given the current passenger demand for weekend versus weekday trips to Angel Island, it would enable a concessionaire to use a smaller boat on weekdays, supplementing its weekend service with a Golden Gate boat, and which might pick up passengers from both Larkspur and another Marin County dock, such as Tiburon.

⁷ Telephone conversation with Chris Gallagher, Park Manager, Bay Model, April 26th, 2012.

Therefore, if Golden Gate Ferry is considered as a candidate for supplementing ferry services to Angel Island, it should only provide its service as a subcontractor to a concessionaire. Any other arrangement would draw patrons and therefore revenues away from the Angel Island ferry concessionaire and in any case violate its restrictions as a public agency.

Blue & Gold/Zelinsky Pier. Blue & Gold uses a pier just north of the AITF pier in Tiburon. Blue & Gold leases water rights from the Zelinsky family. However, the pier itself was built and is owned by Blue & Gold. Blue & Gold currently uses this facility to access Angel Island and Sausalito from San Francisco. However, Blue & Gold does not pick up or drop off passengers at Tiburon traveling to or from Angel Island. Blue & Gold has control of and exclusive rights to operate from this pier.

If the Tiburon-Angel Island Ferry concession contract were to be awarded to Blue & Gold, it could be serviced from the Blue & Gold pier instead of the AITF pier. To the extent that parking in the area is adequate to serve the Angel Island service from the AITF pier, it is also adequate to serve Blue & Gold instead, since the two piers are in close proximity. It is not clear whether Blue & Gold would agree to allow another Tiburon-Angel Island ferry concessionaire to use its dock.

Blue & Gold expressed its willingness to accommodate the DPR boat at its Tiburon pier, but did not indicate whether it might charge rent or incorporate the service under a Tiburon–Angel Island concession contract, presumably considering the opportunity cost as an expense when judging the franchise fee it might offer.

Romberg-Tiburon Center Pier. The Romberg-Tiburon Center for Environmental Studies, located several miles northeast of AITF and Blue & Gold Tiburon docks, is a marine research/education facility owned and operated by San Francisco State University. Although the Center has a monitoring pier, there are no docks at the site which can accommodate vessels. According to a representative at the Center, a completely new dock would need to be constructed to serve vessels. Approximately two years ago, the Center estimated that a new dock might cost between \$1 and \$3 million to construct. Given these limitations, it is highly unlikely that this facility could be adapted to provide docking space for the Angel Island ferry.⁸

2. San Francisco Docks

All of the prospective bidders for San Francisco-Angel Island ferry service have now or could obtain access to San Francisco dock space.

Ferry Building (Port of San Francisco). The Port of San Francisco has dock space with available open time windows at the Ferry Building during which an additional ferry operator might obtain landing rights for San Francisco-Angel Island service. The fee would be nominal. For example, as of January 2012, fees for point-to-point ferry service are \$25/day for a single landing, \$45/day for two landings, and \$101/day for six landings. Fees for excursions are higher, at \$102 per landing plus 7% of gross receipts. However, the PUC would presumably authorize

⁸ Telephone conversation with Erin Blackwood, Education and Outreach Coordinator, Romberg-Tiburon Center for Environmental Studies, April 26th, 2012.

the Angel Island service as “point-to-point,” even if combined with other stops, since Blue & Gold’s San Francisco-Sausalito-Tiburon-Angel Island service evidently qualifies as point-to-point.

The operator would also need to make a security deposit of \$5,000 and comply with all of the Port’s insurance, indemnification, and City ordinance requirements, and file a certificate of inspection for its vessel(s). Employing union labor might also be an issue for operators whose workers are not already unionized.

Golden Gate San Francisco Ferry Terminal. The Golden Gate Ferry would be willing to enter into an agreement to allow an Angel Island ferry operator to use its Ferry Terminal dock in San Francisco. It currently has such an agreement with Blue & Gold to operate from its dock in Sausalito. However, the current San Francisco dock is only able to load passengers to a boat’s upper deck. So, bidders hoping to use the Ferry Terminal would need to use boats with that capability, at least until a dock with a different configuration might be constructed, estimated to be no sooner than 2-3 years in the future.

IV. FINANCIAL ANALYSIS

Financial analyses were performed for two ferry operating models described in the following section, as well as for variations within the models to account for a prospective operator’s range of boat, engine and other equipment ages and their relative need for rehabilitation and replacement. We also considered the availability of and need to enter into new contracts for dock and office space, the need to acquire equipment and hire personnel, and other conditions affecting investment and operating costs.

The analysis was performed given (a) the uncertainty about future services to be available on the island, (b) the ability of visitors to access the island on boats other than the concession ferries, and (c) the importance of obtaining competitive bids in a relatively very small competitive market. Therefore, future concession ridership was conservatively estimated to hold at the most recent level, and rates to grow only with inflation. However, also recognizing that future ridership and revenues might be higher, even considerably higher, the sensitivity to higher revenues was tested and a tiered minimum franchise estimated accordingly.

Cash flows for contract lengths of 10, 15 and 20 years were estimated. For periods when the concession enterprise(s) could be profitable, a target after tax internal rate of return (IRR) of 8.0% was applied, being the rate considered to be commensurate with the financial and operating risks. However, it was also recognized that concession enterprise owners might be willing to merely break even for a few years, with the anticipation that future profits would yield reasonable returns over the longer term.

A. Operators’ Financial Structures

This analysis is unique in that, unlike most concession feasibility analyses, there is no single operating structure, or financial model, that best represents an Angel Island ferry service. Below are described two different operating models which concession operators might use to provide

ferry services. The operating model which offers concessionaires the greatest opportunity for profit, and therefore an ability to pay DPR higher franchise fee, is also the model which might, but not necessarily, be expected to yield DPR less frequent Angel Island service. Therefore, DPR will need to consider how best to balance its desire to obtain franchise fees with its desire to obtain the greatest frequency of ferry service.

Model #1 – Multi-Service Operator: The operating model most likely to yield DPR the highest franchise fees is an Angel Island ferry service that is combined with additional tour, charter and ferry services. Such an operating structure enables the operator to allocate its boats, staff and other supporting functions among a number of services in addition to an Angel Island ferry service, and therefore gives the operator flexibility to allocate different boats and staffing complements according to different capacity demands of daily, weekly and seasonal monthly visitation.

Such a multi-service operating model can be (and is) made even more cost-effective by combining its Angel Island ferry runs with other ferry services, making the Angel Island run one leg of a multi-stop ferry service. By combining Angel Island service with other stops, the operating costs of each run, and the fixed cost amortizations that each run must absorb, are distributed among the multiple stops.

Such an operating model, combining both multi-service operations with multi-stop ferry runs, yields the highest returns on invested capital and therefore enables the highest franchise fee payments to DPR. However, since such an operator's priorities are necessarily distributed among all its services, the Angel Island service will not always receive the highest priority. As a result, the number and frequency of Angel Island trips, especially direct non-stop Angel Island trips, will likely be fewer than for an operator that makes its Angel Island ferry service its exclusive or principal service, such as the one described in the following model.

Model #2 – Exclusive Direct Service Operator: The operating model most likely to yield DPR the highest service frequency, but not likely to yield DPR the highest franchise fees, is an Angel Island ferry service that is the operator's exclusive or principal service. Such an operator must cover most or all of its fleet and equipment amortization, staff and other operating costs from its Angel Island ferry revenues. Such an enterprise structure is at a distinct financial disadvantage, especially during periods of low daily, weekly and seasonal demand, when it has only limited capability to allocate different boats and staff complements to the Angel Island ferry service to and from other services.

Moreover, if such an operator does not also link its Angel Island service together with other Bay Area stops, it must absorb all of its Angel Island fixed and variable operating costs in its Angel Island runs, even incurring losses due to low daily, weekly, or monthly Angel Island visitation which might otherwise be covered by revenues from visitors traveling to other locations on the same ferry runs.

Being heavily, or even exclusively, dependant on the Angel Island ferry service, this second operating model is necessarily much less lucrative than the first, and therefore is not able to yield nearly as high a franchise fee to DPR as Model #1 (multi-service operator). However, since the

Angel Island service is its primary or exclusive priority, the operator using Model #2 (exclusive direct service) is much more likely to provide more frequent and certainly more non-stop direct trips to Angel Island.

B. Comparative Competitive Advantage: Blue & Gold vs. Angel Island Tiburon Ferry (AITF)

Blue & Gold operates 17 vessels, of which 9 are devoted to Angel Island ferry service to varying degrees, with 2 vessels providing the majority of service. Moreover, Angel Island visitors comprise only a portion of total passengers on many runs, the island being only one of two or three stops on its multi-stop routes, originating in San Francisco and which also include stops at Sausalito and Tiburon. Blue & Gold also operates the WETA boats originating from Oakland/Alameda, whose passengers then connect with Blue & Gold's Angel Island bound boats from San Francisco. Thus, Blue & Gold's operation resembles Model #1 (multi-service operator) discussed above.

AITF's operation consists almost exclusively of the Angel Island service, with additional charter services contributing a relatively small portion of its total revenues. Of AITF's three boats, one is devoted exclusively to the Angel Island service, with a second smaller boat serving as backup, but often being idle. The third boat is devoted exclusively to charter service.

Therefore, AITF must absorb nearly all of its fixed expenses, and all of its Angel Island variable expenses, in the Angel Island ferry service. However, Blue & Gold can absorb a very high proportion of both its fixed and variable expenses in the portion of its San Francisco-Angel Island ferry runs that also include service to Sausalito and Tiburon. Thus, Blue & Gold's costs to serve Angel Island are only the additional/marginal costs associated with the additional time and distance its boats and personnel devote to the Angel Island leg of its San Francisco-Sausalito-Tiburon trips.

Moreover, the additional destinations of Sausalito and Tiburon that Blue & Gold integrates with its Angel Island destination are so close to Angel Island that the marginal cost of also serving Angel Island is actually quite small. By maximizing the number of trips that Blue & Gold combines Angel Island stops with Sausalito and Tiburon stops, it minimizes its marginal costs to serve Angel Island. AITF does not have such flexibility, providing only non-stop direct service between Tiburon and Angel Island. Therefore, AITF's operation resembles Model #2 (exclusive direct service operator) above.

By Blue & Gold serving Angel Island on a multi-stop route, its service frequency to the island is considerably less than it might be if it served Angel Island exclusively with non-stop direct service with the same boat(s) as AITF does. Moreover, the time to cross the Bay to Angel Island from San Francisco is greater than to cross from Tiburon (nearly 5 miles/20-30 minutes compared with 1 mile/10 minutes). In addition, when Blue & Gold's boat stops at Sausalito and/or Tiburon either before Angel Island or after departing Angel Island, the trips for its Angel Island destined passengers are even longer, adding up to 50 minutes to what would otherwise be a 20 to 30 minute non-stop trip. Visitors from San Francisco to Angel Island can typically arrange their schedule to take only the Blue & Gold boats that have a direct San Francisco-Angel Island connection. However, there are fewer of those trips available than AITF operates between

Tiburon and Angel Island. Therefore San Francisco originating passengers are not offered as frequent service as passengers originating from Tiburon.

For example, during peak ridership times (which consist of summer weekend morning and late afternoon trips), AITF currently offers 3 direct morning trips and 3 direct afternoon return trips to Angel Island, compared to 2 direct morning trips and 1 direct afternoon trip offered by Blue & Gold. AITF offers twice the number of summer weekend roundtrips compared to Blue & Gold, specifically 8 trips compared to 4 trips, respectively. Although a San Francisco based concessionaire might offer better service, it remains to be seen if they would.

C. Minimum Franchise Fee vs. Service

In addition to the different *operational* characteristics described above for Model #1 (multi-service operator) and Model #2 (exclusive direct service operator), the two operating models will likely have different *investment* characteristics. By *investment* characteristic, we mean either purchase of new or used boats or use of boats that are currently already being used for ferry services. An additional investment might be to transport the boats to the Bay. Such used boats initial investments might be wholly or mostly amortized, have varying fair market values, and require different future investments in hull and engine rehabilitation or replacement, and different timing of those investments. Further complicating the investment analysis is that the operator of either Model #1 (multi-service operator) or Model #2 (exclusive direct service operator) might operate from a home dock, and use office and maintenance facilities which it owns or rents at or less than fair market value, and which might require different levels of rehabilitation investment.

1. Tiburon Base

A Tiburon-Angel Island concessionaire might adopt Model #1 (multi-service operator) as its exclusive operational model and therefore offer a Tiburon-Angel Island connection as one leg of a series of multi-stop loops. The concessionaire might adopt Model #2 (exclusive direct service operator), therefore making the Tiburon-Angel Island connection its exclusive non-stop direct route. Or, the concessionaire might adopt a mix of the two models.

It is estimated that a Model #2 (exclusive direct service) operator from a Tiburon base would be able to pay DPR a franchise fee in the following ranges:

- **1.0% to 3.3% of revenues on a 10-year contract,**
- **1.2% to 3.0% of revenues on a 15-year contract, and**
- **2.5% to 4.0% of revenues on a 20-year contract.⁹**

Note that these franchise fees recognize DPR's desire for the next Tiburon ferry concession contract to provide dock space for the DPR boat free of charge. Such a provision has

⁹ The percentage franchise fee under the 15-year contract is somewhat lower due to engine replacement costs expected to be necessary in Year 11, and therefore only partly amortized in the remaining 4 years of a 15-year contract.

“opportunity cost” stemming from the fact that space for the DPR boat might otherwise be rented to another boat owner. The impact of requiring the concessionaire to provide docking space free of charge to the DPR reduces the franchise fee by approximately 1.4 percentage points.

The lower fee in the range applies to an operator who would need to purchase all boats used for the concession service at fair market value. The higher fee in the range would be for an operator who already owns the boats to be used for the Tiburon-Angel Island ferry concession, and which have relatively low fair market sale value in the Bay Area.

Therefore, if DPR wishes to try to attract bidders who might not be currently operating boats that could be used for the Tiburon-Angel Island ferry service, and who might need to purchase the boats used in the enterprise, DPR should require a minimum franchise fee that is at or somewhat under the lower rate in the range. However, if DPR feels satisfied in its ability to attract bidders only from among current Bay Area operators, a minimum franchise fee that is at or somewhat below the higher rate in the range would be appropriate.

It is important to recognize that the more that a Model #1 (multi-service) enterprise diversifies its operations and serves Angel Island with multi-stop loops, the more of the operator’s fixed costs can be absorbed into the other operations, yielding higher marginal profits to the Tiburon-Angel Island leg, and therefore enabling a higher franchise fee as a percentage of the Tiburon-Angel Island revenues. Furthermore, the closer the additional stops are to Angel Island, the lower the amount of variable costs that need to be absorbed by the Angel Island route.

However, an operator using Model #1 (multi-service) for part or all of its Tiburon-Angel Island service cannot offer as many Tiburon-Angel Island trips as an operator using Model #2 (exclusive direct service) without increasing the number of Model #1 loops, either by operating more frequent loops or more boats, or both. Yet, at some point, the additional stops can no longer absorb all of the loops’ fixed costs, thereby increasing the marginal costs that must be absorbed by the Tiburon-Angel Island service, and therefore reducing the franchise fee that could be paid for that service.

Therefore, when comparing the franchise fees which a bidder offers, DPR should also compare the relative frequencies of non-stop direct Tiburon-Angel Island service also being offered and how well the number offered meets DPR’s objectives for the route. The higher the proposed fee, the more likely the proposed service will be lower.

The following describes the relative service that might be expected under the two operating models.

Model #2 - Exclusive Direct Service Operator: Operating one boat from a Tiburon base, a Model #2 operator could practically make 8 round trips per day. Both directions would be non-stop direct, for a total of 16 single non-stop direct runs, 8 runs out and 8 runs back.

Model #1 - Multi-Service Operator: Assuming the same speed single boat from a Tiburon base, but each trip comprising stops at Angel Island, San Francisco, Sausalito and returning to Tiburon, a Model #1 operator could practically make only 3 total loops. Of the 3 loops, 2 might be non-stop direct to Angel Island before continuing the loop. And, 1 would be a return, for a

combined total of 1.5 round trips, with a total of only 3 legs non-stop direct.

Therefore, for a Model #1 (multi-service) operator to offer service frequency between Tiburon and Angel Island that is nearly but not quite equivalent to Model #2 (exclusive direct service), the Model #1 operator would need to run 5 times as many boats in the multi-stop routes.¹⁰

However, as noted above, for a pure Model #1 (multi-service) operation to yield service that is equivalent to a pure Model #2 (exclusive direct service) operator, the Model #1 operator would unlikely be able to cover all of its fixed capital costs on the additional stops. Therefore, a mix of the two models might be offered, making it important for DPR to consider service frequency as well as franchise fee when evaluating bids for the service.

2. San Francisco Base

The same operational concepts apply to a San Francisco-Angel Island operation as described above for the Tiburon-Angel Island operation. In this case, the run is longer to serve Angel Island from San Francisco. Also, the loop for a Model #1 (multi-service) operator might be similar to the loop described above for Tiburon service or it might be an entirely different ferry loop or even combined with a different boat service, such as a charter or tour service. The key point is that whatever other services the Model #1 boats provide would help cover those boats fixed costs.

For the projected visitor flows, a Model #2 (exclusive direct service) operation, providing only direct non-stop service from San Francisco, was found unable to break even, let alone yield a fair market after tax return of 8.0%. It was estimated that for a ten-year contract, an operator using Model #2 exclusively would need to generate annual revenues of approximately \$590,000, or 35% higher than projected revenues, just to break even. Therefore an enterprise operating under Model #2 could not afford to operate the San Francisco-Angel Island route, or therefore pay DPR any franchise fee.

For a pure Model #1 (multi-service) operation, the franchise fee was estimated to be in the range of:

- **14.0% to 63.0% of revenues for all contract terms**

The actual franchise fee percentage is highly dependent on how close the San Francisco-Angel Island route would be to the other portions of the route of which the San Francisco-Angel Island service would be a part. The closer the routes, the less the additional/marginal cost of the Angel Island route, and therefore the higher the franchise fee the operator could pay.

Specifically, assuming that all of the Model #1 (multi-service) operator's fixed costs are defrayed by its other operations, but none of the variable cost incurred to serve Angel Island, the franchise fee would be 14.0%. Yet, also assuming that all of the Model #1 operator's fixed costs are defrayed by its other operations, and nearly all of the variable costs are absorbed by the other stops on the loop because Angel Island is so close to the route to serve those other stops, the

¹⁰ 8 round trips (for Model #2)/1.5 round trips (for Model #1) = 5.33, rounded down to 5.

marginal variable cost to serve Angel Island would be so low as to enable a franchise fee of up to 63.0%.

But again, when considering the franchise fee bidders offer, DPR should also consider how many non-stop direct San Francisco-Angel Island legs are also being offered, and whether the number of legs offered meets DPR objectives. In this case, the greater frequency of service might also be offered together with the highest franchise fee, since the lower marginal cost to divert to Angel Island would likely derive from a shorter diversion route.

D. Recommended Contract Term

The franchise fees and levels of service are relatively independent of the concession contract term. The dominant influence is whether the concessionaire must buy new or used equipment, or can simply use its existing equipment, which might even be mostly amortized. Another influence is the timing of capital equipment replacement and rehabilitation. A third important influence is the recovery/salvage value of the equipment at the end of the contract term.

While concessionaires would prefer the security of a longer term contract, and will generally pay a higher franchise fee for the longer contract, DPR should also consider the desirability of more frequent competitions and the opportunity to adjust contract conditions, including franchise fees, as well as assessing the possible opportunity to combine concession contracts.

E. Tiered Franchise Fee

Once the concessionaire achieves an internal rate of return commensurate with its financial and operating risks, estimated to be an after-tax rate of 8.0%, most of the net operating revenues derived from the same level of operations go directly to the concessionaire's bottom line. Therefore, a concessionaire would be able to pay a very high franchise fee on the incremental revenues for the same level of operation.

However, DPR should also consider giving its concessionaire's adequate incentive to generate higher revenues. Too high an incremental franchise fee on the additional revenues would be a disincentive. Moreover, DPR might seek proposals which offered to spend a significant amount of such additional revenues on marketing.

For the Tiburon-Angel Island contract, it is recommended that DPR require a second tier franchise fee, stipulating a minimum franchise fee for the second tier of 15.0% on the incremental gross revenues over and above \$800,000.

For the San Francisco-Angel Island contract, it is recommended that DPR require a second tier franchise fee, stipulating that the minimum for the second tier be higher than the proposed first tier franchise fee applied on revenues over and above \$550,000.

As stated earlier, when considering the tiered franchise fee rates, DPR should evaluate whether it would be satisfied with the service frequency that is offered for the rates proposed.

F. Service Levels – Required and Authorized

Considering the substantial impact on the concessionaire's financial returns, it is recommended that DPR specify two levels of ferry services in the Prospectus. The first service level would be the minimum service that DPR would require the concessionaire to offer from the San Francisco and Tiburon origins, respectively. The second service level would be a higher desired and authorized level, but not required, for the respective origins.

Required and desired ferry service might (1) be different for San Francisco and Tiburon origins, (2) might indicate the number of round trips in each direction for weekdays and weekend days and for different seasons of the year, as well as (3) the number or percentage of such trips that would be direct non-stop trips.

Bidders would be given the opportunity to offer any service level they chose between the minimum required and the desired higher level, being awarded more credit according to the degree to which their proposed service reached the higher desired level. DPR would then consider the proposed service level together with the other criteria specified in the Prospectus when evaluating proposals, including franchise fees.

Per DPR's request, this study also analyzed the financial feasibility of expanding the Tiburon-Angel Island scheduled ferry service to winter weekdays. This analysis found that it would not be financially feasible to do so. Therefore, it is recommended that the minimum required service levels be no greater than the schedules currently being offered by the Tiburon-Angel Island concessionaire. It is also recommended that the higher authorized desired service levels not be too much greater than the current schedules, recognizing that the concessionaire will have limited ability to operate trips that cost more than the revenues they yield while still earning a reasonable profit commensurate with their financial and operating risks and also paying DPR a franchise fee.

G. Combined or Separate Contracts

Since the most suitable docks to serve Angel Island ferry passengers from Marin County are in Tiburon and under the control of private ferry companies, AITF and Blue & Gold, those two companies are the most likely bidders for the next ferry service contract from Marin County. Since AITF or Blue & Gold are very unlikely to grant docking rights to a competitive bidder, they are likely to be the only bidders for that service. Assuming both AITF and Blue & Gold bid for the Tiburon service, any other bidders would need to base their proposal on obtaining docking rights from one of those two only *after* becoming the successful bidder, which would be a risky assumption and one which a bidder would be unlikely to take, unless DPR lowered or eliminated the cost of bidding or of withdrawing a successful bid.

The most cost-effective ferry service from Tiburon would be one that combined service from San Francisco by which an operator would serve passengers from both cities on some or all of the same boats. However, such multi-stop loops cannot also efficiently provide non-stop service to both San Francisco and Tiburon passengers on the same runs. Therefore, while the run combination will be most cost-effective for the operator, it will entail longer transit times to

many visitors. Therefore, such a system will almost certainly yield DPR the highest franchise fees while also offering passengers less desirable service.

Therefore, to enable the greatest competition for Angel Island service from Tiburon, DPR should accept bids for (1) Tiburon-Angel Island service, (2) San Francisco-Angel Island service, as well as bids for (3) combined service from San Francisco and Tiburon. DPR might then compare the bids in terms of both visitor service quality (particularly in terms of ferry transit time) and franchise fee offered. It is recommended that the bids for both the Tiburon and San Francisco to Angel Island ferry contracts be solicited at the same time, the contracts let at the same time, and the durations of the contracts be the same length. This would give bidders the flexibility to bid for one or both contracts, while also giving DPR the flexibility to choose one or two operators according to its evaluation of which contracts and contracting approach would be in the best interest of the State. It would also yield the greatest number of competitors for each contract, an important consideration given the relatively few operators judged capable to bid.

Accepting bids only for a combined Tiburon and San Francisco ferry services into a single contract would limit the competition to only the larger operators, able to offer both Angel Island ferry services with little or no expansion of their fleet or having the capability to raise the necessary debt and/or equity capital to make the necessary expansion. Smaller operators would have less capability to do either. Furthermore, less diversified operators would be assuming greater risk in expanding their fleet than more diversified operators.

Precluding even one competitor from the small number of potential competitors for the next concession contract(s) would not be in DPRs best interest, especially since if that meant eliminating AITF from the competition.

V. CONCLUSIONS AND RECOMMENDATIONS

The following represents the primary findings and recommendations of this study:

Trends in Angel Island Visitation. Over the last five years, Angel Island SP has averaged nearly 161,000 visitors per year. Annual visitation declined at an average annual rate of roughly 3% per year over this period. However, visitation rebounded in 2010 and 2011 by approximately 5% and 14% in each year, respectively. The increases in visitation in 2010 and 2011 may signal a recovery to pre-recession levels of visitation which exceeded 180,000.

Trends in Angel Island Ferry Ridership. Over the last 5-years AITF's ridership averaged nearly 63,000 passengers per year. However, it had steadily declined from its 1970 level of over 70,000 to as low as less than 57,000 in 2010, recovering to somewhat more than 65,000 in 2011 a one year increase of nearly 16%. It appears that the impacts from the national recession beginning in 2008 at least partly explain the significant drop in ridership beginning in 2008, but its recovery not occurring until 2010 was slower than for many other recreation destinations, presumably affected more than others by its visitors' limited travel budgets and recreation expenditures. On average, approximately 78% of AITF's passengers are adults and 22% are children.

Over the same period (2007 to 2011), Blue & Gold's ridership grew at an average annual rate of 0.5%. However, its ridership decline from nearly 39,000 in 2007 to just below 34,000 in 2008, was relatively modest and its recovery faster, increasing to over 37,000 in 2009 then to nearly 39,000 and 40,000 in both 2010 and 2011, respectively, for a 5-year annual average of nearly 38,000 passengers. Approximately 83% of Blue & Gold's passengers are adults and 17% are children.

Minimum Franchise Fees. Analyzing the financial feasibility of prospective ferry concessionaires originating in Tiburon and San Francisco is complicated by the fact that there can be significant differences in their operational characteristics. These differences in operations have direct implications for the financial feasibility of the ferry service and therefore the franchise fee that such prospective operators could afford to pay DPR.

As discussed in Section IV of this report, operators who provide multiple boating services including multi-route ferry services, would be capable of providing ferry service to Angel Island by incorporating the route as one stop on a multi-stop trip (this type of service is referred to as Model #1). In contrast, other operators might focus exclusively, or almost exclusively, on the Angel Island ferry service, and provide it only as direct non-stop transits (this type of service is referred to as Model #2).

Financial analyses were performed for the operating models described above, as well as for variations within the models to account for a prospective operator's range of boat, engine and other equipment ages, amortizations and their relative need for rehabilitation and replacement.

The following summarizes the range of minimum franchise fees that a ferry operator could afford to pay DPR under 10, 15, and 20-year contract terms:

Tiburon Originating Ferry Contract

It is estimated that a Model #2 (exclusive direct service) operator from a Tiburon base would be able to pay DPR a franchise fee in the following ranges:

- **1.0% to 3.3% of revenues on a 10-year contract**
- **1.2% to 3.0% of revenues on a 15-year contract**
- **2.5% to 4.0% of revenues on a 20-year contract**

The range corresponds to the operator's relative need to purchase the boats or use boats already in its possession.

As discussed in Section IV of this report, although a Model #1 (multi-service) operator would have cost efficiencies that might enable it to offer DPR a higher percentage franchise fee, such an operator could not provide as high a frequency of direct non-stop service as a Model #2 (exclusive direct service) operator without incurring higher costs, thereby reducing the franchise fee it could afford to pay DPR. Therefore, it is recommended that when comparing the franchise fees which a bidder offers, DPR should also compare the relative frequencies of non-stop direct Tiburon-Angel Island service also being offered and how well the service offered

meets DPR's objectives for the route. In short, the higher the proposed fee, the more likely the proposed service will be lower.

For the Tiburon-Angel Island route, it is recommended that DPR stipulate a tiered franchise fee, with a minimum franchise fee of:

15.0% on the incremental gross revenues over and above \$800,000.

San Francisco Originating Ferry Contract

For a pure Model #1 (multi-service) operation, the franchise fee was estimated to be in the range of:

- **14.0% to 63.0% of revenues for all contract terms**

Note that the franchise fee percentage that an operator could afford to pay DPR is highly dependent on (1) the capacity of the other links in the route that included S.F.-Angel Island service to cover all of the concessionaire's fixed costs, and (2) how close the San Francisco-Angel Island route would be to the other portions of the route, and therefore how much of the additional/marginal cost of the Angel Island route had to be absorbed by that route.

Again, it is recommended that when considering the franchise fee bidders offer, DPR should also consider how many non-stop direct San Francisco-Angel Island legs are also being offered, and whether the number of legs offered meets DPR objectives.

Given the projected visitor flows, a Model #2 (exclusive direct service) operation, providing only direct non-stop service from San Francisco, was found unable to break even, let alone yield a fair market after tax return of 8.0%. It was estimated that for a ten-year contract, an operator using Model #2 exclusively would need to generate annual revenues of approximately \$590,000, or 35% higher than projected revenues, just to break even. Therefore an enterprise operating under Model #2 could not afford to operate the San Francisco-Angel Island route or therefore pay DPR any franchise fee.

For the San Francisco-Angel Island route, it is recommended that DPR ask bidders to offer a higher rate than the minimum 14.0% to be applied on the base revenues, on revenues over and above \$550,000 while not stipulating the minimum percentage to be applied on the increment.

Combined or Separate Contracts. It is recommended that to enable the greatest competition for Angel Island service from Tiburon, DPR should accept bids for (1) Tiburon-Angel Island service, (2) San Francisco-Angel Island service, as well as bids for (3) combined service from San Francisco and Tiburon. DPR might then compare the bids in terms of both visitor service quality (particularly in terms of ferry transit time) and franchise fee offered. It is recommended that the bids for both the Tiburon and San Francisco to Angel Island ferry contracts be solicited at the same time, the contracts let at the same time, and the durations of the contracts be the same length. This would give bidders the flexibility to bid for one or both contracts, while also giving DPR the flexibility to choose one or two operators according to its evaluation of which contracts

and contracting approach would be in the best interest of the State.

Frequency of Ferry Service. Considering the substantial impact on the concessionaire's financial returns, it is recommended that DPR specify two levels of ferry service frequency in the Prospectus. The first service level would be the minimum service that DPR would require the concessionaire to offer from the San Francisco and Tiburon origins, respectively. The second service level would be a higher desired and authorized level, but not required, for the respective origins. It is recommended that the minimum required service levels be no greater than the schedules currently being offered by the Tiburon-Angel Island concessionaire. It is also recommended that the higher authorized desired service levels not be too much greater than the current schedules, recognizing that the concessionaire will have limited ability to operate trips that cost more than the revenues they yield while still earning a reasonable profit and also paying DPR a franchise fee.

Length of Contract Term. The franchise fees and levels of service are relatively independent of the concession contract term. While concessionaires would prefer the security of a longer term contract, and will generally pay a higher franchise fee for the longer contract, DPR should also consider the desirability of more frequent competitions and the opportunity to adjust contract conditions, including franchise fees, as well as assessing the possible opportunity to combine concession contracts.

Available Dock Space. The AITF dock and Blue & Gold's (i.e. Zelinsky) dock, currently being used to access Angel Island from Tiburon, are the best choices for future Angel Island ferry service from Marin County. They are close to each other and both are near the downtown with its available public parking. All other docks in Marin County have significant shortcomings affecting their capacity to accommodate the desired Angel Island ferry service schedule timing, frequency or expected number of passengers without incurring significant additional costs and/or having to clear significant institutional and infrastructure investment hurdles. All of the prospective bidders for San Francisco-Angel Island ferry service have now or could obtain access to San Francisco dock space.

Prospectus Requirements. The Prospectus should require bids to specify (a) monthly ridership estimates by fare category and (b) pro forma financials.

Bids should also be evaluated in terms of the level and quality of service offered, including proposed frequency of service, time between San Francisco/Tiburon and Angel Island for non-stop and multi-stop trips, and percentage of trips which would be non-stop direct trips to Angel Island. Note that a multi-stop route might have its first or final leg being such a non-stop direct trip. Therefore, bids might be evaluated higher that offer more direct non-stop Angel Island connections during the periods when DPR feels them to be most important, regardless of whether those routes are exclusive non-stop runs or as the desired legs of multi-stop runs.

Consideration of proposed marketing expenses, maintenance and repair expenditures, capital investment and other investment and operating commitments are important. However, when evaluating bids, DPR should consider that demand has been relatively insensitive to modest differences in marketing expenditures. Instead, it is recommended DPR seek a description of the

proposed marketing methods, specify the methods and proposed expenditures in the contract and require annual evidence of compliance.

As to R&M, capital investment and other financial terms, instead of merely considering the dollar amounts, we recommend that DPR seek descriptions of Assets Offered (especially speeds and capacities of primary and back-up boats), Recapitalization (boats and engine rehabilitation and replacements), and Maintenance & Repair Plans. Again, these should be part of the concession contract(s), with requirements for annual evidence of compliance.

Bids should present financial pro-formas in a consistent format as specified by DPR.

Combined Ferry and Land-Based Services Concession. DPR should consider combining the ferry services with the land-based services into a single concession. It is recommended that the next Angel Island land-based and ferry concession contracts terminate at the same time to enable a potential combination of concession operations.

The benefit of such a combination might be to better align the interests of the ferry and land-based services, achieve better coordination of services, justify and enable an improved and expanded marketing effort, and avoid conflicts between the separate service providers about who might be impeding the business interests of the other. The greater marketing effort might yield higher visitor demand, which might be expected to support expansion of the land-based operations to include a broader range of services, which in turn might also yield higher demand and therefore profits to the combined ferry and land services concessionaire.

Although the current and prospective ferry service providers might not have the capability or interest in assuming the land-based services, they could partner with entities with such abilities and interests. Such a combination of services is precisely the concession model that has been used so successfully by the National Park Service, including ferry and land based hospitality services, such as at Isle Royale National Park.

Prospective Bidders. In addition to the Angel Island Tiburon Ferry, Inc. and Blue & Gold, which currently hold the Tiburon-Angel Island and San Francisco-Angel Island ferry service concessions, three other operators indicated an interest in serving the Marin County and San Francisco to Angel Island visitors – Hornblower, Red & White and the Golden Gate Ferry. However, as a public agency benefitting from financial subsidies, the Golden Gate Ferry would not be eligible to bid. Moreover, without certainty of being able to serve passengers from a dock in Marin County, Hornblower and Red & White would be unlikely bidders for a Marin County-Angel Island service.